



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,571	02/11/2004	Anthony Vetro		2767

22199 7590 10/31/2007  
MITSUBISHI ELECTRIC RESEARCH LABORATORIES, INC.  
201 BROADWAY  
8TH FLOOR  
CAMBRIDGE, MA 02139

EXAMINER
----------

ROBERTS, JESSICA M

ART UNIT	PAPER NUMBER
----------	--------------

2621

MAIL DATE	DELIVERY MODE
-----------	---------------

10/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/776,571

Applicant(s)

VETRO ET AL.

Examiner

Jessica Roberts

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/18/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-15 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-11 of

copending Application No. 10/776062 in view of Vetro.

3. Although the conflicting claims are not identical, they are not patentably distinct from each other. The method of transcoding of claim 1 and dependent claims of the current application obviously requires the model of claim 1 and dependent claims for functionality. Additionally, the method of the current application, and thereof is not patentably distinct from the model of the copending application.

This is a provisional obviousness-type double patenting rejection, because the conflicting claims have not in fact been patented.

Regarding claim 1,

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1- 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al., US-6, 339,450.

Regarding **claim 1**, 1Chang teaches method for transcoding an input video, comprising: determining a plurality of sets of rate values and a corresponding plurality of sets of distortion values, there being one set of rate values and one corresponding set of distortion values for each of a plurality of components in an output video corresponding to the input video (column 9 line 53-60); and allocating bits to each of the plurality of components in the output video according to the associated set of rate values and the associated corresponding set of distortion values (see abstract, column 1 line 65 to column 2 line 2, and column 4 line 6-16).

Regarding **claim 2**, Chang teaches minimizing a total distortion of the output video subject to the second bit rate (column 10 line 26-28 and fig. 3: 42).

Regarding **claim 3**, Chang teaches requantizing the input video to the output video (column 4 line 12-16 and fig. 3: 46); inserting resynchronization markers in the

output video (spatial resilience, column 3 line 20-25, column 4 line 17-42, and fig. 3:42); and inserting intra-coded blocks in output video (temporal resilience, column 3 line 20-25 and line 31-38, and fig. 3: 42).

Regarding **claim 4**, Chang teaches in which the second bit rate comprises the plurality of sets of rate values, and the total distortion comprises the corresponding plurality of sets of distortion values (column 3 line 61 to column 4 line 5, fig. 3).

Regarding **claim 5**, Chang teaches equalizing slopes of the rate-distortion functions (column 10 line 26-37 and column 12 line 33-35).

Regarding **claim 6**, Chang teaches differentiating discretely each of the rate-distortion functions to obtain the equal slopes (column 10 line 60-63 and figs. 15-20).

Regarding **claim 7**, Chang teaches in which the differentiating is performed using two sample points of each rate-distortion function (column 10 line 60-63 and figs. 15-20).

Regarding **claim 8**, Chang teaches examining the slope of each rate-distortion functions (column 10 line 60-63 and figs. 15-20); and adjusting a rate of the allocating of the bits to each component based on the slopes of the rate-distortion functions, and any changes in the second bit-rate while allocating bits to each of the plurality of components (column 4 line 12-16 and column 10 line 26 to column 11 line 35).

Regarding **claim 13**, Chang teaches in which the rate of adjusting corresponds to a rate of change of the second bit-rate while allocating the bits (column 4 line 12-16 and column 10 line 26-column 11 line 35).

Art Unit: 2621

Regarding **claim 14**, Chang teaches in which the rate of adjusting corresponds to a magnitude of the slope of each rate-distortion function (column 4 line 8-12 and column 11 line 7-19).

Regarding **claim 15**, Chang teaches in which the allocating operates on groups-of-frames of the input video to account for inter-frame dependencies in the input video (column 6 line 50 to column 7 line 26 and fig. 14).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al., US-6,339,450.

Regarding **claim 9**, Chang teaches identifying a first component with a smallest absolute derivative value of the corresponding rate-distortion function, and a second component with a largest absolute derivative value of the corresponding rate-distortion

Art Unit: 2621

function (column 10 line 53 to column 11 line 6, fig. 3, and fig. 15-20). **NOTE:** Chang discloses a transcoder is implemented that provides both spatial and temporal resilience then uses rate distortion theory (column 1 line 65 to column 2 line 2 and fig. 3:42) by taking the derivative of the rate distortion functions for the source rate, spatial and temporal resilience, it would be obvious that the values of the corresponding slopes for the rate functions would correspond to one of the components. Further, Chang examines various points on the slope (fig. 16, 18, 20) of the distortion function, indicating a lowest value as well as a highest value; which is evident that it is obvious to relate the values of the slope with the corresponding component from the rate distortion functions

Regarding **claim 10**, Chang teaches increasing a number of bits allocated to the second component with the corresponding largest absolute derivative value (column 12 line 39-54). Further, it is clear to the examiner that an increase of the resilience would be indicative of a corresponding derivative value for the component.

Regarding **claim 11**, Chang teaches decreasing a number of bits allocated to the first component with the corresponding smallest absolute derivative value (column 12 line 39-54). ~~Further, it is clear to the examiner that an adjustment in the~~

Regarding **claim 12**, Chang teaches increasing a number of bits allocated to the second component with the corresponding largest absolute derivative value; and decreasing a number of bits allocated to the first component with the corresponding smallest absolute derivative value (column 12 line 39-54).

**Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Han et al. US 2005/0047503 Scalable video coding method and apparatus using pre-decoder.

Strid et al., US-4,858,160 System for setting reference reactance for vector corrected measurements

Olivieri et al., US-6, 856,699 Coding and noise filtering an image sequence

Olivieri et al., US-2003/0053709 Coding and noise filtering an image sequence

**Examiner's Note**

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the



Art Unit: 2621

solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Roberts whose telephone number is (571) 270-1821. The examiner can normally be reached on 7:30-5:00 EST Monday-Friday, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/776,571

Page 9

Art Unit: 2621

/Jessica M. Roberts/  
10-26-2007

*Marsha D Banks-Harold*

MARSHA D. BANKS-HAROLD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600